

Region II

Immediate Removal Request for the Duane Marine Corporation Site,  
Perth Amboy, New Jersey - ACTION MEMORANDUM

Bruce Sprague, OSC  
Emergency Response Branch

Dick Dewling  
Acting Regional Administrator

THRU: William Librizzi, Director  
Office of Emergency and Remedial Response

*Secure site, moving  
upstream of fire and  
boiled up materials  
in building*

339813



I. PURPOSE:

The New Jersey Department of Environmental Protection (NJDEP) has requested immediate EPA action to <sup>address</sup> respond to unsafe hazardous materials storage conditions at the Duane Marine Corporation Site in order to prevent or mitigate immediate and significant risk of harm to human life and health. EPA's proposed removal action includes ~~bulking, crushing, and disposal~~ of empty drums and related debris that has been consumed by fire. The roll-off dumpster contents and other drummed materials will be analyzed for disposal characteristics (including PCB's), bulked, and then properly disposed of. All contents of the storage tanks, mixing vessels, tankers, and oil/water separators will be subjected to compatibility testing and, analyzed for disposal characteristics. These materials will then be removed for proper disposal. All spent booms and sorbent material will also be drummed and removed from the site. Grossly contaminated surficial soils will be analyzed, excavated and disposed of properly. ~~The site will also be resecured including fence repair and installation of new gate locks.~~ Total removal cost is estimated to be \$1.45 million covering a 12-16 week removal period.

This Action Memorandum will initiate the issuance of a CERCLA 106 Order. CERCLA funds will be obligated only if the 106 Order does not result in a timely and sufficient response by the responsible parties. *same statement as in Byron Barrel*

II. BACKGROUND:

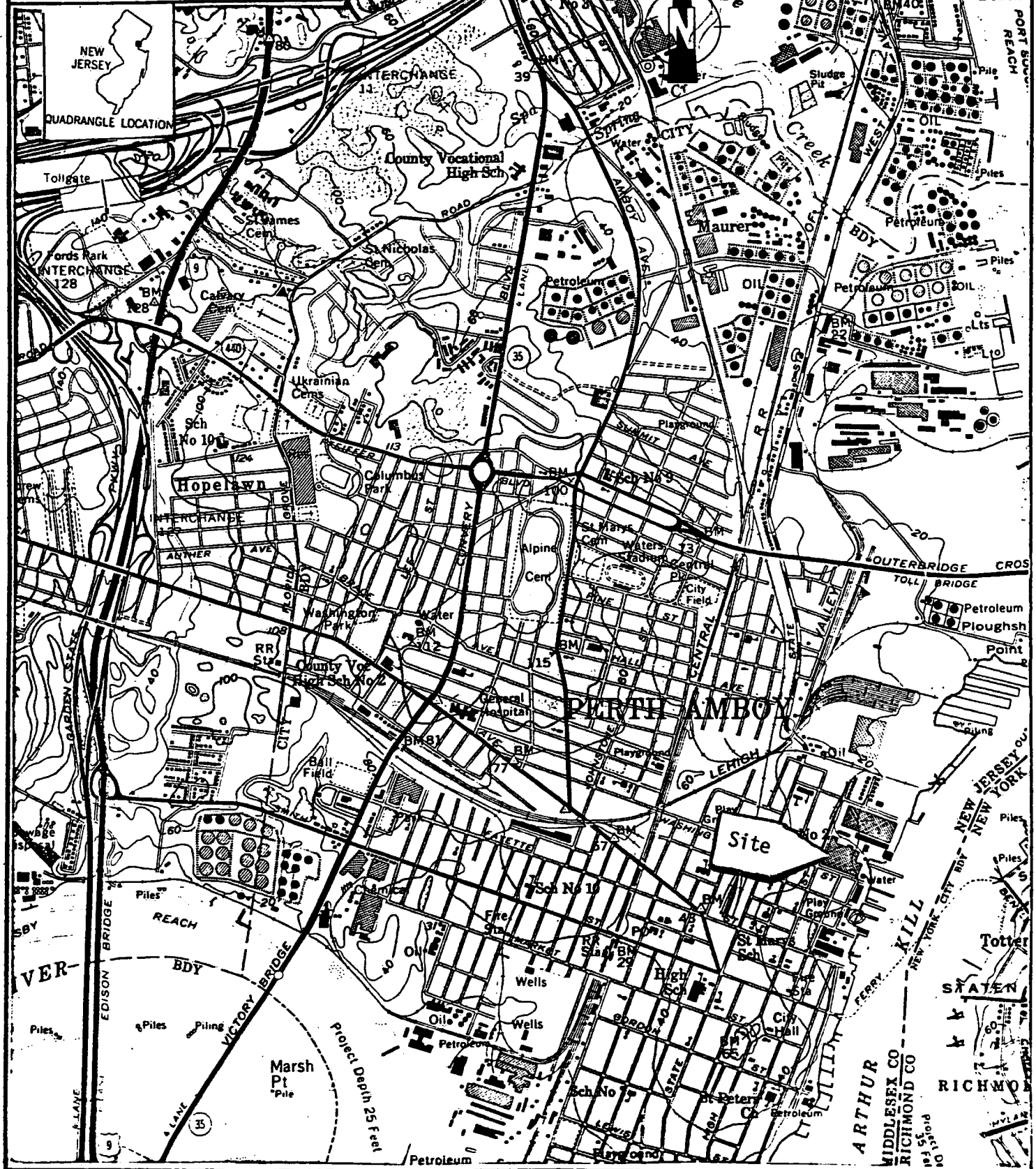
A. Site Setting/Description

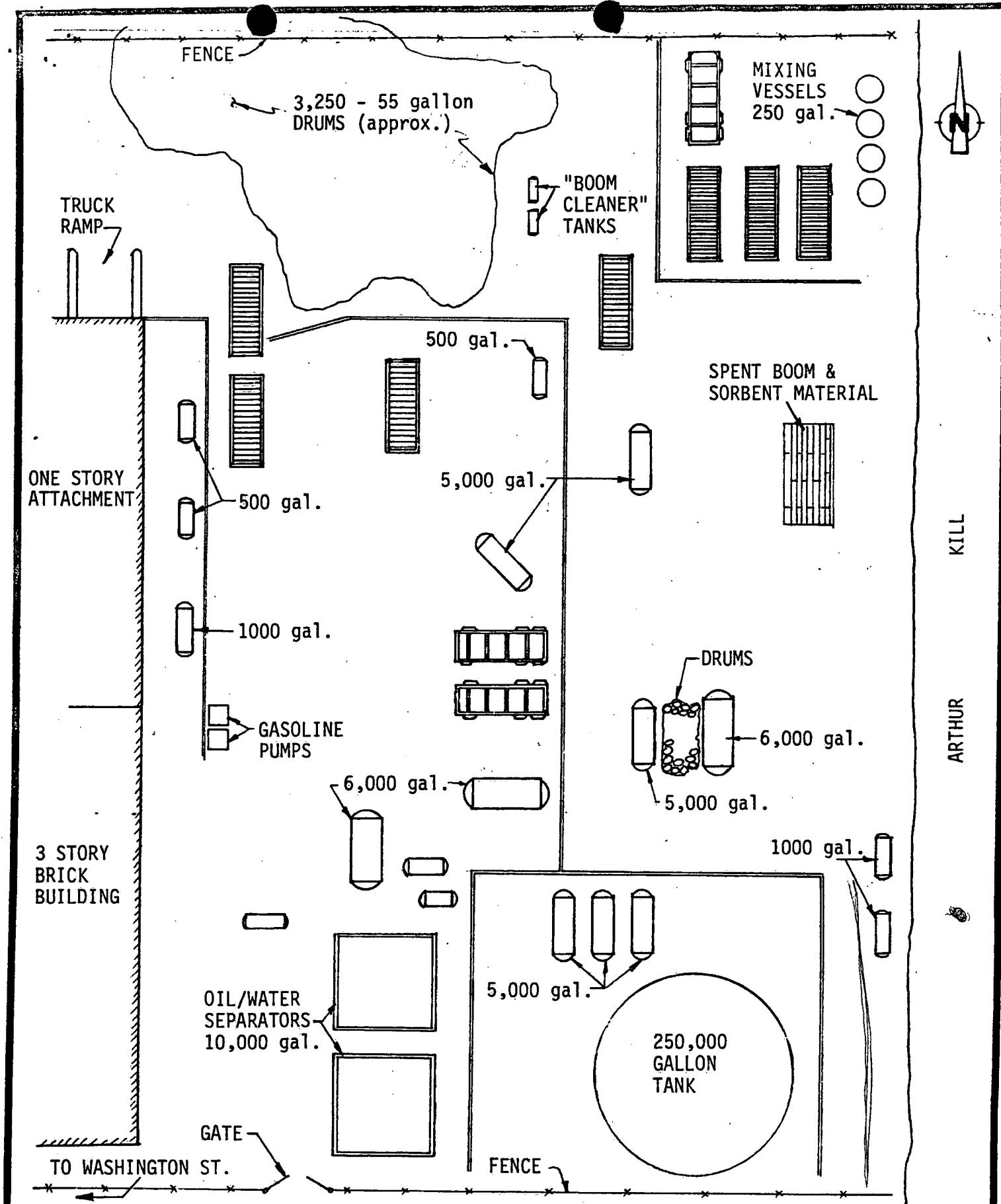
The Duane Marine Corporation Site is located at 26 Washington Street in Perth Amboy, Middlesex County, New Jersey (Figure 1). The site directly borders the Arthur Kill, a navigable waterway of the United States. Approximately 3,500 metal 55-gallon drums, two dozen metal tanks, six tankers, three box trailers, and six roll-off dumpsters have been abandoned on the five-acre site (Figure 2).

Figure 1

Duane Marine  
Perth Amboy, N.J.

Weston/SPER Division








**WESTON**  
AN ADAMS GROUP COMPANY

SPILL PREVENTION &  
 EMERGENCY RESPONSE DIVISION

In association with

ICF, Inc., Jacobs Engineering, Inc., & Tetra Tech, Inc.

FIGURE 2  
 DUANE MARINE  
 SITE PLAN

LEGEND:  20 CY DUMPSTER  
 BOX TRAILER  
 TANK

In addition, two trucks, construction debris, and piles of spent boom and sorbent material are scattered throughout the site.

Duane Marine Corporation was an oil spill cleanup contractor that operated this site for storage, treatment, blending, and reprocessing of waste oils. The New Jersey Department of Environmental Protection issued a temporary operating authorization to this facility on May 9, 1978 for acceptance of the following waste types: tank bottoms, waste oils, oil sludge, solvents, acids, alkali solutions, and flammable liquids. The facility was not authorized to accept PCB waste. On July 7, 1980 a major fire at General Cable in the Perth Amboy Industrial Center (on Washington Street) spread to the Duane Marine facility resulting in the destruction of several buildings, boats, and vehicles. Approximately 2,000 55-gallon drums of waste chemicals were consumed during the fire. Subsequent to the fire, Duane Marine Corporation expressed no interest in continuing operations and abandoned the site.

The majority of the approximately 3,500 fifty-five gallon drums are located in the north to northwest area of the site (Figure 2). These drums are haphazardly stacked in several piles on the asphalt pavement, up to three tiers high and ten deep (Appendix A). Several of the drums in this area are empty, having been consumed by the July 1980 fire. The others in this area appear to contain mostly solid materials and have rusted/corroded such that labeling information is legible on only a few. Some of these drums are bulging and a few do not have lids.

A much smaller drum storage area is located in the southeastern portion of the site. Approximately 100 fifty-five gallon drums are stacked between a 6,000 gallon tank and a 5,000 gallon tank (Figure 2). They appear to be intact, with a few of them located directly underneath the 5,000 gallon tank. There are no containment dikes around the drum storage areas.

A 250,000 gallon oil storage tank is located in the southeastern portion of the site. This steel tank is approximately thirty feet high and sits on a concrete foundation. The soil surrounding this tank is covered with an oily sheen from previous leakage (Appendix A). The tank wall is gouged on the northernmost side, accounting for at least part of the soil contamination. This gouging may have started from bullet holes.

Adjacent to the oil storage tank are three 5,000 gallon waste oil treatment tanks connected in series. These four tanks are enclosed by a dike that is constructed of steel reinforced concrete walls.

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The walls are 6 inches thick, 12 feet high and 80 feet long. Several substantial cracks in the back wall are apparent, directly bordering the Arthur Kill.

The six roll-off dumpsters (i.e., 20 cubic yards each) contain solid and/or sludge like materials. Three of these dumpsters are covered with plywood. The other three are completely open.

The two oil/water separator tanks (i.e., 10,000 gallons each) are located adjacent to the unlocked gate entrance. They are covered with tarps, although there is evidence of oil leakage/spillage on the asphalt pavement (Appendix A).

Six tankers are also present on site. Three are of 5,000 gallon capacity and the others are of 6,000 gallon capacity (Appendix A). At least two of these tankers have leaked in the past with no means of containment present.

Of the <sup>report of arson</sup> three box trailers on site, one has been badly damaged by fire, another contains spent sorbent and boom materials, and the third appears to contain new fifty-five gallon drums, and sorbent material. All three of the trailers are open and easily accessible.

There are fifteen small tanks located throughout the site, the largest being of 1,000 gallon capacity. Several of these tanks are rusted/corroded and a few contain bullet holes.

The site is located in a heavily-populated and densely-industrialized area. Several sections of the fence surrounding the property have been cut and knocked down. In addition, the gate entrance on Washington Street is not secure as the chain and lock have been removed. Repeated vandalism has resulted in free access increasing the threat to human health via direct contact with the hazardous materials. Children have been observed on-site during recent EPA inspections. *Remnants of fireworks have been found on site*

The site is within 0.2 miles of a residence. Approximately 5,000 people live within 1 mile of the site, including children. Perth Amboy has a population of 39,000. Directly across from the site on Washington Street is a large propane tank enclosed by a chain-link fence. The Perth Amboy Dry Dock Company is adjacent to the site on Front Street.

#### B. Quantity and Types of Substances Present

There is an unknown quantity of hazardous materials on site. A sampling program of various tanks conducted by the NJDEP in June and August 1981 revealed the presence of the following hazardous substances:

<u>Substance</u>	Statutory Source For Designation Under CERCLA
Bromoform	CWA, Section 307(a)
Dichlorobromomethane	CWA, Section 307(a)
Ethylbenzene	CWA, Section 311(b)(4)
Tetrachloroethylene	CWA, Section 307(a)
Trichloroethylene	CWA, Section 311(b)(4)
Total-Xylene	CWA, Section 311(b)(4)
PCB/1254	CWA, Section 311(b)(4)
PCB/1221	CWA, Section 311(b)(4)
PCB/1216	CWA, Section 311(b)(4)
Toluene	CWA, Section 311(b)(4)
Chlorobenzene	CWA, Section 311(b)(4)
1,2-Dichloroethane	CWA, Section 307(a)
1,2-Dichloropropane	CWA, Section 307(a)
Trichloroethane	CWA, Section 307(a)

The NJDEP also obtained samples from the six roll-off dumpsters in September 1981. The following hazardous substances were identified:

<u>Substance</u>	Statutory Source For Designation Under CERCLA
Benzene	CWA, Section 311(b)(4)
Toluene	CWA, Section 311(b)(4)
Ethylbenzene	CWA, Section 311(b)(4)
Total-Xylene	CWA, Section 311(b)(4)
Dimethyl phthalate	CWA, Section 307(a)
Butylbenzylphthalate	CWA, Section 307(a)
Methylene chloride	CWA, Section 307(a)
1,1,1-trichloroethane	CWA, Section 307(a)
Tetrachloroethylene	CWA, Section 307(a)
Phenol	CWA, Section 311(b)(4)
Arsenic	RCRA, Section 3001
Chromium	RCRA, Section 3001
Lead	RCRA, Section 3001
Silver	RCRA, Section 3001
Selenium	RCRA, Section 3001

Very few of the drums have manufacturer or product labels. Product labels noted include waste oils, epoxy/adhesives, sodium sulfhydrate, and caustic sodium hydroxide. Manufacturers labels include Dow Chemical, Chevron, Anchor Chemical Company, and G. Whitfield Richards.

C. This site is not on the National Priority List.

III. THREAT:

A. Threat of Exposure to Public or the Environment

The threat of exposure to the public or the environment is multifold. The site is unsecured permitting individuals to come in direct contact with hazardous substances. Children have been observed on-site during EPA inspections and previous attempts by NJDEP to repair the fence and secure the site have been unsuccessful. Recent vandalism is evident from the presence of beer bottles/cartons and the appearance of bullet holes in a few of the tanks.

The potential for fire and subsequent release of toxic fumes is also of concern. A fire involving an abandoned office trailer on-site in September 1983 was considered to be of suspicious nature. Since the site is unsecured, the potential for arson still exists. As secondary containment measures are virtually non-existent, any run-off from a spill/fire will flow into the Arthur Kill, a navigable waterway of the United States.

In summary, repeated vandalism has resulted in free access, further deterioration of containers, and ~~the likelihood of additional waste dumping~~. It will, therefore, be necessary to ~~secure the site~~ and remove all contaminated materials for proper disposal.

*don't forget to secure it*

B. Evidence of Extent of Release

The present evidence of release includes the obvious oil sheen and contaminated soil surrounding the 250,000 gallon oil storage tank. The tank wall is gouged (possible from bullet holes) on the northernmost side, accounting for the leakage. In addition, tanker leakage has been noted from discoloration/staining of soil on-site. The NJDEP reported that rainwater has caused displacement of material in the drum storage area with leachate flowing from this area to the Arthur Kill.

C. Previous Actions to Abate Threat

The NJDEP collected samples for volatile organic analysis from eleven tanks/tankers on June 12, 1981 and also obtained samples for PCB analysis from thirteen tanks/tankers on August 11, 1981. The six roll-off dumpsters were sampled by NJDEP on September 2, 1981 for priority pollutant analysis. Two additional tanks were sampled for PCB analysis by NJDEP on November 19, 1981.

*See Attachment*

In August 1981, New Jersey Spill Fund monies were utilized to secure the site. Repeated vandalism since then and continued deterioration of waste containers has resulted in the current threat to human health from direct contact, and potential release of toxic fumes from a fire.

D. Current Actions to Abate Threat

Mr. Robert E. Hughey, Commissioner of NJDEP has requested a removal action. EPA inspected the site on February 16, 1984 and again on June 4, 1984.

IV. ENFORCEMENT:

(See attachment.)

V. PROPOSED PROJECT AND COSTS:

A. Objectives of the Removal Action are as follows:

1. ~~Resecure the site including fence repair and installation of new gate locks.~~
2. *Stabilize the site making covering containers and filling leaking drums.*  
~~Provide detailed documentation of the drums, tanks, and dumpsters including condition, location, labels, amount of material, etc.~~
3. Bulk, crush, and dispose of empty drums and related debris that has been consumed by fire.
4. Conduct compatibility testing (including PCB's), and RCRA Hazardous Waste Characteristics analyses of roll-off dumpster contents and other drummed materials. Compatible materials will be bulked, followed by proper disposal.
5. Conduct compatibility testing (including PCB's) and RCRA Hazardous Waste Characteristics analyses from contents of storage tanks, tankers, oil/water separators, and mixing vessels. Bulk compatible materials and remove for proper disposal. Disposal methodologies other than landfilling will be pursued.
6. Contain and remove spent booms and sorbent material for proper disposal.
7. Grossly contaminated soils around the site (i.e., surrounding the 250,000 gallon oil storage tank) will be sampled and then removed for proper disposal.



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B. Response Options:

1. ~~Resecuring the Site~~

Breakdown of estimated costs:

(a) Repair 150 feet of fence	\$ 5,000
(b) Installation of new gate locks	250
(c) Subtotal	\$ 5,250
(d) 20% contingency	1,050
(e) TAT costs	2,000
(f) Intramural costs (HQ and Region)	2,000
(g) TOTAL	\$ 10,300

2. Empty Drum Removal

Breakdown of estimated costs:

Assumption: Quantity of material on site equals 2,500 empty fifty-five gallon drums.

(a) Bulking, crushing, and disposal \$20/drum	\$ 50,000
(b) 20% contingency	10,000
(c) TAT costs	5,000
(d) Intramural costs (HQ and Region)	7,500
(e) TOTAL	\$ 72,500

3. Full Drum Removal

Breakdown of estimated costs:

Assumptions: Quantity of material on site equals 1,000 full fifty-five gallon drums. This includes the spent boom and sorbent material.

(a) Compatibility testing <sup>40</sup> \$200/drum	<sup>40</sup> \$ 200,000	160,000
(b) Bulking, repacking, and disposal \$300/drum	300,000	
(c) Subtotal	500,000	
(d) 20% contingency	100,000	
(e) TAT costs	10,000	
(f) Intramural costs (HQ and Region)	10,000	
(g) TOTAL	\$ 620,000	

4. Roll-Off Dumpster Content Removal

Breakdown of estimated costs:

Assumptions: Quantity of material on site equals 6 full twenty cubic yard dumpsters.

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(a) Sampling and analysis 6 samples at \$1,000/sample	\$ 6,000
(b) Compatibility testing \$200/sample	1,200
(c) Repacking and disposal 120yd <sup>3</sup> at \$200/yd <sup>3</sup>	24,000
(d) Subtotal	<u>25,200</u>
(e) 20% contingency	5,040
(f) TAT costs	5,000
(g) Intramural costs (HQ & Region)	7,500
(h) TOTAL	<u>\$ 42,750</u>

## 5. Removal and Disposal of Tanker Contents

### Breakdown of estimated costs:

Assumptions: The three 6,000 gallon tankers are approximately one-half full. The three 5,000 gallon tankers are approximately one-third full. In addition, each of these tankers contains approximately 15% by volume of sludge. *PCA inc.*

### For the 6,000 gallon tankers:

(a) Sampling and analysis (liquid and sludge) 6 samples at \$1,000/sample	\$ 6,000
(b) Compatibility testing \$200/sample	1,200
(c) Bulking, stabilization, and disposal of liquids 9,000 gallons (equivalent to 165 full drums) at \$300/drum	50,000
(d) Bulking, and disposal of sludge 15yd <sup>3</sup> at \$200/yd <sup>3</sup>	3,000
(e) Subtotal	<u>\$ 60,200</u>

### For the three 5,000 gallon tankers:

(f) Sampling and analysis (liquid and sludge) 6 samples at \$1,000/sample	6,000
(g) Compatibility testing \$200/sample	1,200
(h) Bulking, stabilization, and disposal of liquids 5,000 gallons (equivalent to 95 full drums) at \$300/drum	28,500
(i) Bulking and disposal of sludge 12yd <sup>3</sup> at \$200/yd <sup>3</sup>	<u>2,400</u>
(j) Subtotal (f) to (i)	\$ 38,100
(k) Total of (e) and (j)	98,300
(l) 20% contingency	19,660
(m) TAT costs	5,000
(n) Intramural costs (HQ and Region)	7,500
(o) TOTAL	<u>\$130,500</u>

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6. Removal and Disposal of Oil Storage Tank  
Contents and Waste Oil Treatment Tanks

Breakdown of estimated costs:

Assumptions: The 250,000 gallon oil storage tank is approximately one-fifth full. The three 5,000 gallon treatment tanks are approximately one-third full. In addition, each of these tanks contains approximately 15% by volume of sludge. *PCB conc.*

For the oil storage tank:

(a) Sampling and analysis (liquid and sludge) 2 samples at \$1,000/sample	\$ 2,000
(b) Compatibility testing \$200/sample	400
(c) Bulking, stabilization, and disposal of liquids 50,000 gallons (equivalent to 925 full drums) at \$300/drum	277,500
(d) Bulking and disposal of sludge 185yd <sup>3</sup> at \$200/yd <sup>3</sup>	37,000
(e) Subtotal	\$317,000

For the three 5,000 gallon treatment tanks:

(f) Sampling and analysis (liquid and sludge) 6 samples at \$1,000/sample	6,000
(g) Compatibility testing \$200/sample	1,200
(h) Bulking, stabilization, and disposal of liquids 5,000 gallons (equivalent to 95 full drums) at \$300/drum	28,500
(i) Bulking, and disposal of sludge 12yd <sup>3</sup> at \$200/yd <sup>3</sup>	2,400
(j) Subtotal (f) to (i)	38,100
(k) TOTAL of (e) and (j)	355,100
(l) 20% contingency	71,020
(m) TAT costs	5,000
(n) Intramural costs (HQ & Region)	7,500
(o) TOTAL	\$439,000

7. Disposal of Oil/Water Separator Contents

Breakdown of estimated costs:

Assumptions: The two 10,000 gallon oil/water separator tanks are approximately one-half full. Each of these tanks contains approximately 15% by volume of sludge.

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(a) Sampling and analysis 4 samples (liquid and sludge) at \$1,000/sample	\$ 4,000
(b) Compatibility testing \$200/sample	800
(c) Bulking, stabilization and disposal of liquids 10,000 gallons (equivalent to 190 full drums) at \$300/drum	57,000
(d) Bulking, and disposal of sludge 15yd <sup>3</sup> at \$200/yd <sup>3</sup>	3,000
(e) Subtotal	\$64,800
(f) 20% contingency	13,000
(g) TAT costs	5,000
(h) Intramural costs (HQ and Region)	7,500
(i) TOTAL	90,300

#### 8. Disposal of Contents of 500 Gallon Tanks

Breakdown of estimated costs:

Assumption: The eight 500 gallon tanks are approximately one-quarter full.

(a) Sampling and analysis 8 samples at \$1,000/sample	\$ 8,000
(b) Compatibility testing \$200/sample	1,600
(c) Bulking, stabilization, and disposal (equivalent of 20 drums) at \$300/drum	6,000
(d) Subtotal	\$15,600
(e) 20% contingency	3,120
(f) TAT costs	3,000
(g) Intramural costs (HQ and Region)	5,000
(h) TOTAL	\$26,720

#### 9. Contaminated Soil Removal

Breakdown of estimated costs:

Assumption: There are approximately 100 cubic yards of contaminated soil on site.

(a) Sampling and analysis of 5 samples at \$1,000/sample	\$ 5,000
(b) Excavation and disposal 100yd <sup>3</sup> at \$200/yd <sup>3</sup>	20,000
(c) Subtotal	\$25,000
(d) TAT costs	2,000
(e) Intramural costs (HQ & Region)	3,000
(f) TOTAL	\$30,000

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The TOTAL PROJECT CEILING is \$1.45 million. This amount corresponds to the utilization of an Annex II chemical waste landfill as the primary disposal method. Utilizing incineration as the primary disposal method, the total project ceiling would be \$1.85 million.

C. Project Schedule

Project initiation date has not been set. It is estimated that the entire removal action will take 12 to 16 weeks.

VI. REGIONAL RECOMMENDATION:

Conditions at the Duane Marine Corporation site meet the NCP Section 300.65 criteria for an immediate removal (i.e., it presents an immediate and significant risk of harm to human life and health because of the potential for direct human exposure to acutely toxic substances and the potential for fire). Therefore, I recommend your approval of the immediate removal request. The estimated total project costs are \$1.45 million of which \$1.30 million are for extramural cleanup contractor costs. CERCLA Funds will be obligated only if the 106 Order(s) does not result in a timely and sufficient response by the responsible party(ies). Please indicate your approval or disapproval of this action by signing below and returning this memorandum to me.

Approve: \_\_\_\_\_ Date: \_\_\_\_\_

Disapprove: \_\_\_\_\_ Date: \_\_\_\_\_

Attachments